

Is Running Enough? Reconsidering the Conventional Wisdom about Women Candidates

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Abstract

The conventional wisdom in the literature on women candidates holds that “when women run, they win as often as men.” This has led to a strong focus on the barriers to entry for women candidates and significant evidence that these barriers hinder representation. Yet, a growing body of research suggests that some disadvantages persist for Republican women even after they choose to run for office. In this paper, I investigate the aggregate consequences of these disadvantages for general election outcomes. Using a regression discontinuity design, I show that Republican women who win close House primaries lose at higher rates in the general election than Republican men. This nomination effect holds throughout the 1990s despite a surge in Republican voting starting in 1994. I find no such effect for Democratic women and provide evidence that a gap in elite support explains part of the cross-party difference.

Keywords: Elections; Gender; Women Candidates; Regression Discontinuity Design

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In 2015, 104 women hold seats in Congress, the largest number of female representatives in U.S. history (CAWP 2015). Although this number is a dramatic improvement from decades earlier (a mere 16 women held seats in 1973), men still hold over 80 percent of all congressional seats. As scholars of gender and politics have shown, one of the primary barriers to increasing the number of female representatives has been getting enough women to run in the first place. Indeed, scholars have documented an array of institutional (Sanbonmatsu 2002b; Fox and Lawless 2004, 2010; Kanthak and Woon 2014), attitudinal (Dolan 2010; Arceneaux 2001), and perceptual (Sanbonmatsu 2006; Fox and Lawless 2011) barriers that discourage qualified women from seeking political office. These research findings, in combination with studies of female candidates' election win rates, have led to the conventional wisdom that "when women run, they win as often as men." However, a growing body of research suggests that some disadvantages persist even after a female candidate declares for office, implying that women have to be better candidates than men to win at the same rate (Jenkins 2007; Lawless and Pearson 2008; Anzia and Berry 2011; Fulton 2012; Pearson and McGhee 2013). Moreover, these disadvantages are increasingly thought to have a partisan hue, with Republican women often encountering higher hurdles than Democratic women in their quest to win office (Palmer and Simon 2008; Pearson and McGhee 2013; Swers and Thomsen 2014). These new findings are significant because they suggest that post-entry disadvantages may be partially responsible for the continued underrepresentation of women in politics broadly and the growing gender gap across parties, in particular.

To build on these recent findings, I investigate the aggregate consequences of these disadvantages for women candidates on general election outcomes. That is, I analyze whether women who surpass the barriers to entry do indeed win as often as men. In doing so, my goal is not to trivialize or challenge the effects of the barriers to entry, which past research has shown to be the primary cause of women's underrepresentation, but rather to isolate those effects from disadvantages that may persist even after a woman has chosen to become a candidate.¹ Further examining the extent of these potentially lingering disadvantages is necessary to ensure that we have a complete understanding of the challenges that women face both before and after deciding to run for office. Indeed,

¹As a result, I do not discuss the extensive literature on barriers to entry or theorize specifically about how party might interact with gender at the candidate entry stage of the electoral process. These questions, while important, are independent of my research design, which focuses exclusively on the women who have chosen to become candidates for office (and thus surpassed the barriers to entry).

if women from either party do not win as often as men, it would have implications for why the gender gap exists within Congress, whether (or at what rate) it would disappear in the future if the number of women running for office were to increase, and what range of solutions the parties will need to focus on to eliminate the gap entirely. It would also have implications for the partisan gender gap, particularly if women from each party win at different rates, as most existing theories do not adequately explain the stagnant growth rate for Republican women (Thomsen 2015). Finally, identifying the aggregate consequences of post-entry disadvantages is important regardless of whether these disadvantages are the main cause of women's underrepresentation as their mere existence would imply that – even in the absence of barriers to entry – gender would continue to shape the political fortunes of female candidates.

While a number of observational studies have addressed this question in the past, their estimates are not causally identified and could suffer from bias if key endogenous variables are unaccounted for. In fact, we see evidence of this in the literature in cases where scholars have chosen to include theoretically-motivated variables in their models that are typically omitted from these analyses. For example, when candidate quality, campaign spending, and district-specific factors are included as independent variables, scholars have shown that women in both parties lose more often than men (Fulton 2012; Pearson and McGhee 2013). Yet, it is difficult to know how to weight these findings in light of the broader evidence in the literature. On the one hand, a significant number of studies find evidence of equal win rates; on the other hand, these factors may be important features of the causal process, such that ignoring them biases point estimates. Ultimately, this challenge highlights the need for causal studies that minimize selection problems and evaluate win rates when the presence of a female candidate is plausibly exogenous.

In turn, to isolate the effect of a female candidacy, I use a regression discontinuity design (RDD) on data from U.S. House primary elections between 1972 and 2010. The benefit to using this method is that it leverages the quasi-random assignment of female candidates to the general election in close primary races, which addresses the omitted variable and selection problems. The cost of this relatively high internal validity, however, is uncertainty about the broader applicability of the identified effects, since the design only allows us to generalize directly to close primaries. Yet, this trade-off is necessary to ensure that the findings are unbiased. Indeed, while observational results may often generalize to a broader population, if those results are not internally sound, it is

unclear how scholars should interpret them.

My results show that when Republican women win close primaries, they lose at higher rates in the general election than Republican men. This effect holds throughout the 1990s despite a surge in Republican voting in 1994. In contrast, I find no strong evidence of a nomination effect for Democratic women.² These findings suggest that part of the reason for the persistence of the gender gap in Congress, and particularly the gap between Republican and Democrat women, stems from challenges that Republican women face in getting elected after deciding to run. This, of course, does not undermine the importance of the barriers to entry, but rather suggests that there may be scope conditions that define the likelihood of a woman's success after she enters a race. Moreover, given that Republican women have – up until now – tended to run in relatively women-friendly districts (Palmer and Simon 2008; Pearson and McGhee 2013), that I identify evidence of unequal win rates in this sample suggests that the road to equal representation could be steeper than current studies based on observational data imply.

Why might Republican women fare worse in general elections than Republican men? Anecdotal evidence lends itself to an explanation centered on media coverage or voter stereotyping, yet recent work in these areas has provided evidence against these claims (Hayes and Lawless 2015; Dolan 2014). Instead, building off recent work on gender and the party establishment, I argue that part of the disadvantage that Republican women face in the general election stems from a lack of support by party leaders and elites, a gap that is likely driven by perceptions of viability and party fit (Sanbonmatsu 2002b; Palmer and Simon 2012; Thomsen 2015). Evidence from campaign contributions to Republican general election candidates provides support for this hypothesis. Specifically, I find that Republican women who win close primaries receive a smaller share of the campaign contributions made in their general election races than Republican men. This finding does not preclude a role for other complementary mechanisms that operate through, for example, voter bias or the media, but rather represents one pathway through which Republican women continue to face hurdles after being nominated for office.

²Anastasopoulos (2016) also uses an RDD on congressional primary elections with male and female candidates, but finds no evidence of a 'gender penalty.' Why do our results differ? First, I analyze outcomes separately for Republican and Democratic women, motivated by recent work suggesting the effects of gender may vary by party (Sanbonmatsu 2002b; Palmer and Simon 2008; Elder 2008, 2012; Pearson and McGhee 2013; Swers and Thomsen 2014; Thomsen 2015). Second, our results differ in the specific type of effect being estimated (Cattaneo et al. 2016). This difference arises from a choice about which races to include and is discussed in further detail in the methods section of this paper.

Gender and Election Outcomes

The number of women running for – and winning – political office rose gradually from the early 1970s to 1990, with women from each party increasing as a proportion of their party’s delegation at approximately equal rates. However, during the 1992 election cycle, a record number of women – particularly Democrats – won office, doubling the number of female representatives in Congress and creating a partisan gender gap that continues to exist today.³ The primary explanation in the literature for why gender did not limit the success of women candidates in 1992 is that – once a female candidate has chosen to run for office – gender plays only a limited role in election outcomes. Indeed, as Burrell (1994) notes, the “Year of the Woman” in 1992 was exceptional largely because of the number of women that chose to run, not the bias or challenges they faced once in their races. This finding, which forms the backbone of the conventional wisdom in the literature, has been supported by research in a number of different time periods and contexts, generally using observational data on election results (Lawless and Pearson 2008; Matland and King 2002; Smith and Fox 2001; Seltzer, Newman, and Leighton 1997). Furthermore, it has fueled important research on the barriers to entry for female candidates, with the assumption being that if these barriers were removed and more women began to run, the gender gap in Congress would eventually disappear (Darcy and Choike 1986).

Yet, since 1992, progress has been slow, and both the underrepresentation of women in Congress and the gender gap across parties remain. As Palmer and Simon (2008) note, part of this stems from the fact that as women began to be incorporated into the political system in the 1970s, careerism in Congress grew, increasing the number of incumbents and thereby decreasing the number of winnable seats for women considering runs for office. However, scholars have also explored other potential causes for the slow growth in women’s representation. For example, a number of experimental studies have sought to identify whether gender bias or gender stereotypes hinder women candidates. In contrast to most of the observational literature, these studies have consistently found that voters perceive male and female candidates differently and, in a number of cases, display a preference for a candidate of one sex over the other (Kahn 1994; Mo 2014; Sanbonmatsu 2002a). Similarly,

³The increase in the number of female candidates during this cycle is largely attributed to the highly salient allegations of sexual harassment made by Anita Hill during Clarence Thomas’s confirmation hearings, along with an unusually high number of open seats (Palmer and Simon 2008, 37)

other scholars have shown that voters use gender as an ideological heuristic, with women often perceived as being more liberal than men (McDermott 1997, 1998).⁴ Finally, other experimental work in this area suggests that gender may operate differently within each party, with Democratic and Independent voters being more likely to favor a female Republican candidate and Republican voters being more likely to favor a male Republican candidate (King and Matland 2003).

However, although these experimental studies are useful for the control they provide researchers, they often ignore important real-world factors, such as political party and incumbency status. As Dolan (2014) argues, this is problematic because it does not allow researchers “to examine whether and how stereotypes matter to candidate evaluations and vote choice in the real world, alongside multiple streams of information that might be available to voters” (36). When scholars incorporate these factors into experiments or observational work using real-world elections, the influence of gender stereotypes on voting decisions often disappears (Dolan 2014; Pilpot and Walton 2007). Still, even if party overwhelms gender considerations in individual-level vote choice decisions, it does not necessarily preclude gender stereotypes from playing a role in shaping aggregate election outcomes. Indeed, if gender stereotypes shape contribution behavior, elite organizing, levels of enthusiasm for a candidate, decisions to volunteer for a campaign, or even whether someone shows up on election day (Sanbonmatsu and Dolan 2009; Dolan 2010), then experimental studies of vote choice incorporating factors like party identification may inadvertently find no evidence of bias because they are looking at the wrong political outcomes. In turn, the findings in this area remain mixed, and thus the experimental work showing evidence of bias cannot be immediately dismissed.

Experimental studies, however, are not the only ones that suggest that male and female candidates may not always win at equal rates. Indeed, a number of recent studies using observational data assert that gender continues to play a role even after a woman has decided to run for office (Jenkins 2007; Fulton 2012; Pearson and McGhee 2013). Lawless and Pearson (2008), for instance, analyze primary elections from 1958 to 2004, and find that – although women win as often as men – they face higher levels of primary competition on average. The authors argue, in turn, that the primary process is not gender neutral and that women ultimately “have to be ‘better’ than men

⁴As Koch (2000) notes, such a heuristic could lead to a greater perceived ideological gap between female candidates in the Democratic Party and general election voters than it would between female candidates in the Republican party and general election voters, perhaps suggesting there might be a ‘gender bonus’ – operating through ideology – for female Republican candidates who reach the general election. However, such a heuristic-driven gap might also explain why women are more likely to be nominated as Democrats in the first place.

in order to fare equally well” (Lawless and Pearson 2008, p. 78). While there is indeed evidence that women tend to be higher quality candidates and representatives than men (Anzia and Berry 2011; Fulton 2012; Pearson and McGhee 2013), this quality differential suggests that women should actually be winning more often than men, not less. In other words, if women are generally higher quality candidates, research reporting ‘gender neutral’ outcomes should, in fact, be considered evidence of enduring disadvantage for female candidates after they declare for office (Fulton 2012; Pearson and McGhee 2013).

What, in particular, might these disadvantages that hinder women running for office be? First, scholars have documented that many party leaders – the large majority of which are men – believe that women often have trouble winning office in certain areas (Sanbonmatsu 2002b) and tend to “value men’s political leadership more than women’s” (Palmer and Simon 2012, p. 175). These perceptions have been shown to be especially problematic for the recruitment of candidates, but they also might influence the level of support women receive from the party after they have declared. Indeed, male party leaders and political elites may perceive a woman’s candidacy as less viable and in turn choose not to actively support her as much as a male candidate. Such a hypothesis aligns with recent evidence of gendered donor networks for candidates, with men and women each being more likely to donate to male and female candidates, respectively (Swers and Thomsen 2014). While this pattern is not inherently problematic, given that the majority of large donors – defined as those who show up in FEC records – are men, their tendency to contribute to male candidates leads to funding disparities. This is particularly notable for Republican women, who receive a lower amount of contributions in the aggregate compared to Republican men (Swers and Thomsen 2014) and who often do not receive support from PACs like EMILY’s List, which tend to support Democratic women instead (Burrell 2014).

These funding disparities suggest that the disadvantages for women candidates may operate differently within each party. However, differences in contributions are not the only pieces of evidence suggesting such a partisan hue. For example, Palmer and Simon (2008) argue that where women run is important for their electoral prospects, and that some districts are more women-friendly than others. Specifically, the author’s note that the types of districts where a Republican woman is likely to win the primary election are exactly the types of districts where it is harder for a Republican candidate – male or female – to win the general election. Pearson and McGhee

(2013) make a similar argument about districts, but also note the importance of party, arguing that the Republican party is less accommodating to female candidates than the Democratic party. Importantly, they also find that women of both parties win less often than men, but note that it is unclear whether this is a function of the types of districts that these women run in, particularly for Republicans.⁵ Finally, Thomsen (2015) argues that the rise in polarization has made it increasingly hard for Republican women because they are less likely than Republican men to ‘fit in’ with the party ideologically. While Thomsen (2015) demonstrates this finding primarily in regards to candidate emergence, she notes that the theory is relevant for all candidates. Indeed, it is easy to imagine a scenario in which party leaders and elites strategically allocate resources during a campaign cycle to the candidates who best align with their party ideologically as they believe that these candidates are the most viable. This type of contributing behavior would be consistent with the existing literature on individual donors, which suggests that a significant share of donors are both strategic and ideological contributors (Gimpel, Lee, and Pearson-Merkowitz 2008; Rhodes, Schaffner, and La Raja 2016; Hill and Huber 2017).⁶

How do we reconcile the disadvantages discussed in these recent studies with the patterns of equal win rates? One argument is that since women tend to be higher quality candidates they are able to overcome these disadvantages to win as often as men. However, given the disparities across party, it is unclear why the results would not be different for Republican women, even factoring in the quality differential. In turn, another argument is that the difference is a consequence of inadequate attention to the candidate selection stage. That is, by only looking at aggregate outcomes, observational studies of female candidates win rates ignore the confounding nature of the candidate selection process (Anzia and Berry 2011). How might this manifest in bias? Thinking about candidate quality, for example, if women candidates are of higher quality than men (Anzia and Berry 2011; Fulton 2012; Pearson and McGhee 2013) and if high quality challengers act strategically when entering races (Jacobson and Kernell 1983; Cox and Katz 1996; Ban, Llaudet, and Snyder 2016), models estimating the effect of a female candidacy absent measures or adjustments for

⁵My paper builds on Pearson and McGhee (2013) in that the estimates from the RDD are based on women and men who ran in districts that are comparable, on average. As a result, the selection of women into districts should not bias my estimates.

⁶Indeed, contrary to the claim that donors are not strategic in their giving, Rhodes, Schaffner, and La Raja (2016) find that approximately 40-50 percent of donors surveyed in the CCES are ‘Strategic Investors,’ which they describe as representing “a class of donors that lies at the intersection of the desire and capacity to influence politics with donations... in other districts and states and in ideologically-congruent organizations” (21).

quality would likely be upwardly biased as they would confound the effect of quality with the effect of a female nominee. Bias of this form is not limited to issues of quality, however, and could stem from a variety of difficult-to-measure factors – from candidate recruitment to early party support to available resources – that influence when and where women run. In turn, in this paper, I address the selection problem by using a regression discontinuity design to estimate a local average treatment effect of nominating a female candidate for office when the presence of a male or female candidate in the general election is quasi-randomly assigned.

Female Candidates in U.S. House Elections

In order to estimate the effect of nominating a female candidate at the primary stage on outcomes during the general election stage, this paper uses data from primary and general elections to the United States House of Representatives between 1972 and 2010. In the subset of the data that I use, each observation is a specific female candidate, in a unique election and district, who ran against a male candidate for the Democratic or Republican Party nomination.⁷ The time period from 1972 onward is particularly useful for this study as it coincides with a rise in the number of female candidates as a result of the women’s movement and a decrease in the fraction of widows winning office following the death of their elected husbands.⁸

Figure 1 shows the distribution of the 1,242 House primary elections where a woman ran against a man from 1972 to 2010. The chart is broken down by party of the female candidate, with the

⁷Throughout this study, I have limited the data exclusively to primary elections where a man and a woman were the top two finishers. This is necessary to ensure that each observation has a proper counterfactual. If primaries with only women as the top two finishers were included, for example, the estimates could not be interpreted as the effect of nominating a female candidate as opposed to nominating a male candidate as this would not be a plausible outcome. This issue cannot be avoided by comparing each female candidate to the male candidate with the highest vote share. For intuition, consider a three candidate primary with two women who placed first and third. If the third-place female candidate is included in the analysis, that observation would be coded as the female candidate losing the primary, yet the general election outcomes used as the dependent variable would be from a case where a female candidate was the nominee. To account for this, I subset to races where a man and a woman finished in the top two. However, an alternative way to ensure a proper counterfactual would be to subset to primaries in which only one woman entered the race. In that case, each observation would be a female candidate and all comparisons would be between her and the male candidate with the highest vote share. In practice, since the number of primaries with two female candidates is relatively low, the samples that result from using these two methods are quite similar (particularly around the primary threshold) and so the results are identical regardless of which is chosen.

⁸Specifically, Lawless and Pearson (2008), citing Gaddie and Bullock (2002), note that “up until the 1970s, nearly half of all congresswomen were elected following the deaths of their husbands” (67). In turn, starting the analysis in 1972 decreases (although certainly does not eliminate) the probability that a woman is elected in this scenario. This is important because these particular situations could confound estimates of a female candidate’s nomination with an observationally equivalent ‘coattail’ effect.

darker bars representing primaries where the female candidate was a Democrat. As Figure 1 shows, the number of women candidates running for office has been rising slowly since the 1970s, with Democrats fielding more women candidates in all years except 2010. In addition, Figure 2 plots the primary win rate for women candidates in this subset of races by year and party. Overall, the win rates appear to increase slightly for both parties over time, with variance from year to year. On average, however, Democratic women have tended to outperform their Republican counterparts, with no cohort of Democratic women winning less than 50 percent of their primaries since 1988.

Table 1 shows summary statistics for primary election winners by gender. The first two rows show general election outcomes of interest, while the next four rows describe the overall context within which women are running for office in these elections. Looking at the left two columns with averages for Republican candidates first, we generally see balance across all metrics. These aggregate measures for Republicans, in turn, align with observational evidence that men and women win at the same rate. Notably, however, the rate at which men and women win in these races is relatively low at 39 percent. This is consistent with evidence that the types of districts that Republican women choose to run in are generally less favorable to Republicans, whether male or female (Palmer and Simon 2008). Interestingly, the summary statistics for Democratic candidates, shown in the right two columns of Table 1, present a more imbalanced picture, with male Democratic candidates garnering high vote shares and winning the general election at a higher rate. These aggregate gaps, however, appear to be driven largely by differences in incumbency status, with Democratic men being more likely to be incumbents themselves and thus less likely to face incumbents in the general election. Still, for both parties, it remains unclear whether gender is in fact a neutral electoral force when omitted factors are accounted for; the rest of this paper, in turn, seeks to find out.

Figure 1: Distribution of Primary Elections with a Male and Female Candidate by Party, 1972 - 2010

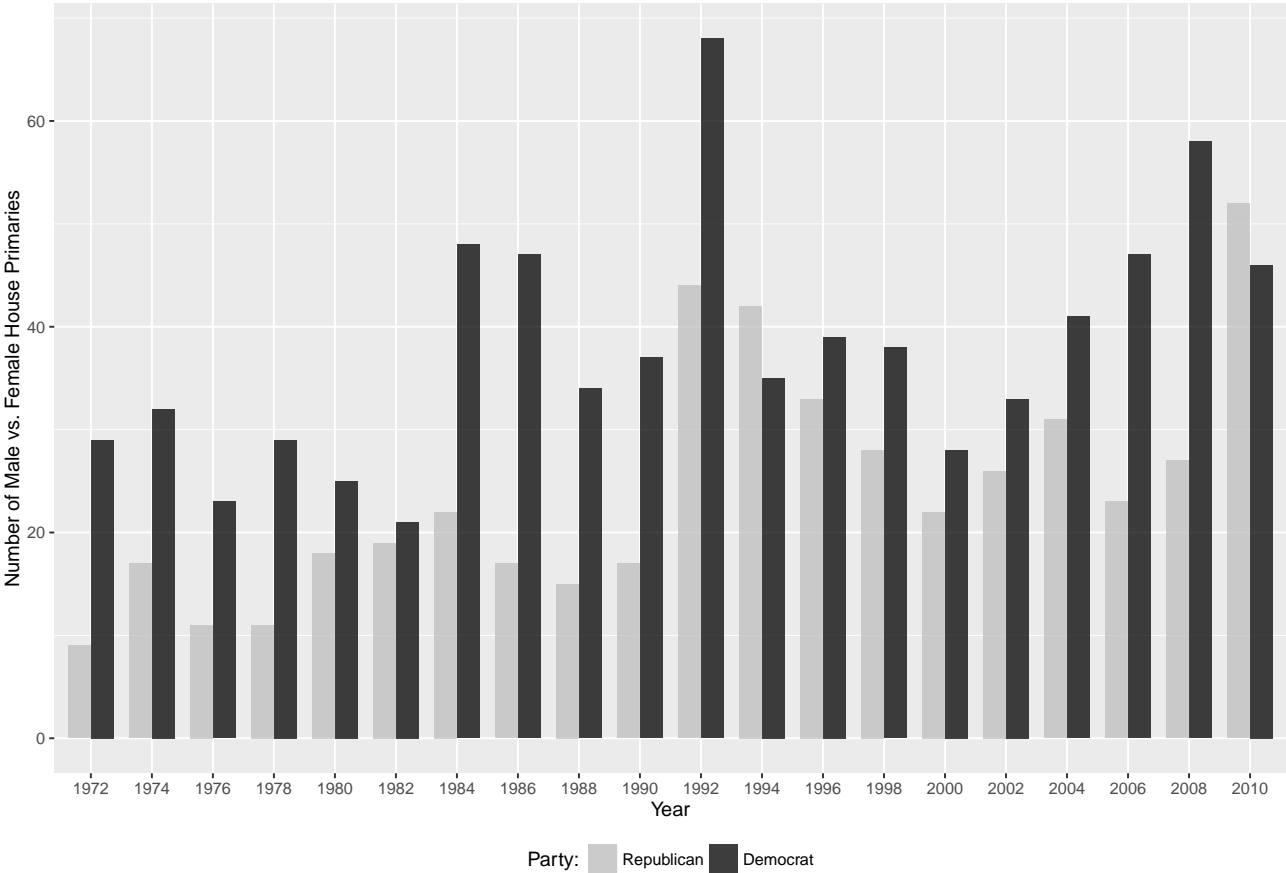


Figure 2: Primary Win Rates for Female Candidates, 1972 - 2010

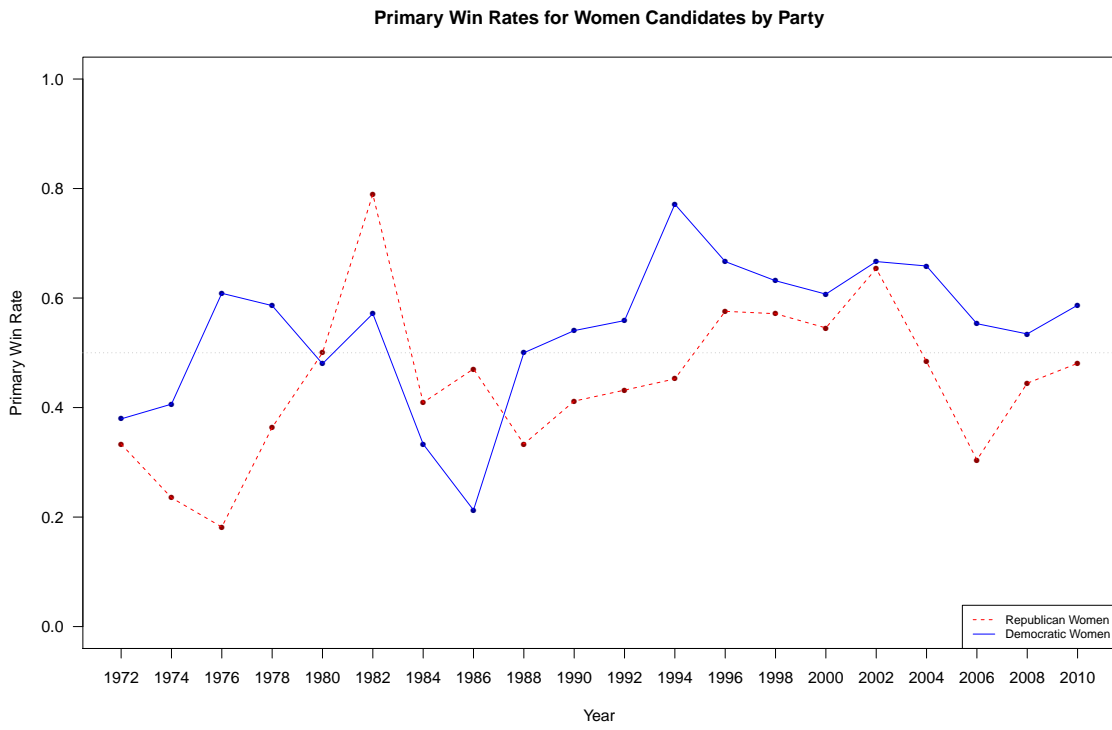


Table 1: Summary Statistics for Winning Candidates in ‘Male vs. Female’ Primaries

Primary Winner	Republican Primaries		Democratic Primaries	
	Male Candidate	Female Candidate	Male Candidate	Female Candidate
General Election Vote Share	0.46	0.471	0.578	0.52
General Election Win Percent	0.397	0.392	0.578	0.42
Nominated to Face Incumbent in General	0.529	0.529	0.311	0.467
Number of Primary Challengers	3.128	3.022	2.932	3.049
Winning Candidate is Incumbent	0.218	0.247	0.453	0.263
Presidential Vote Share, T-1	50.148	50.19	50.326	51.506
	N = 257	N = 227	N = 351	N = 407

Methodology

Use of the regression discontinuity design (RDD) has grown markedly in political science since Lee’s (2008) application of the method to U.S. House elections and the incumbency advantage. Since then, scholars have used RDD methods to answer a range of questions related to elections and political participation (Gerber and Hopkins 2011; Broockman 2014; Hall 2015; Anastasopoulos 2016). In this case, the RDD leverages the uncertainty of close races to approximate the random assignment of a male or female primary candidate to the general election. That is, as the margin of victory in a primary election decreases, the likelihood that either of the top two candidates wins and advances to the general election increasingly approximates a coin flip. This quasi-randomization is beneficial in that it helps to ensure balance along all covariates and minimizes selection problems, such that treatment should not be correlated with any background factors, whether measured or not.

To identify the effect of interest, I run models of the following form:

$$Y_{it} = \alpha + \beta_1 FemaleWin_{it} + \beta_2 Margin_{it} + \beta_3 FemaleWin_{it} * Margin_{it} + \gamma X_{it} + \epsilon_{it} \quad (1)$$

where Y_{it} is the general election outcome of interest for female candidate i at time t . Throughout, I alternate between two dependent variables: the two-party general election vote share and an indicator for winning the general election. These are coded using the outcome for the female candidate’s party in the general election, regardless of whether it is the male or female candidate that wins the primary.⁹ $FemaleWin_{it}$ is an indicator variable that takes the value of 1 when a female candidate wins the primary election and 0 otherwise, and $Margin_{it}$ is the primary election vote share margin for the female candidate. For some models, I also included a vector of pre-treatment control variables X_{it} .¹⁰ The models with covariates do not differ substantively from those without, and the inclusion of these variables is useful primarily in that it decreases the variance of the point estimates (Calonico et al. 2016). In addition, throughout the paper, I follow

⁹For example: if the female candidate wins the primary, the dependent variable would be the share of the vote that the female candidate received in the general election. If the female candidate loses the primary, the variable is coded as the share of the vote that the male candidate receives in her stead. Thus, this is fundamentally a comparison between female candidates who narrowly win or lose, and the outcomes that occur as a result.

¹⁰These covariates, which are all common predictors of candidate and/or party success, include *Presidential Vote Share at T-1* and indicator variables for *Incumbent*, *Presidential Election Year*, and *Decade* (by redistricting cycle).

the guidelines of Imbens and Lemieux (2008) and estimate Equation 1 in two ways: using a 2nd-order polynomial function of the running variable and using local linear regression with varying bandwidths.¹¹ I also include a range of balance checks in the supplementary materials, which show no evidence of sorting around the primary threshold beyond what might be expected purely by chance (Caughey and Sekhon 2011; Eggers et al. 2014).

The model used in this paper is similar to the RDD used in Anastasopoulos (2016), which finds no evidence of a ‘gender penalty’ for women who ran in primaries from 1980 on, and so it is worth clearly articulating the differences in approach. First, following the lead of earlier studies that find differences in the role of gender across parties (Sanbonmatsu 2002b; Palmer and Simon 2008; Elder 2008, 2012; Pearson and McGhee 2013; Swers and Thomsen 2014; Thomsen 2015), I estimate effects separately by party while Anastasopoulos (2016) does not. Second, the sample of elections used in this paper includes all races where a man and a woman were the top two primary finishers, while Anastasopoulos (2016) restricts his sample to primaries where only one man and one woman entered the race. This choice has a profound effect on the number of races that can be included in the analysis (a threefold increase with the looser criteria), but also changes the type of effect being estimated. As Cattaneo et al. (2016) explain, including elections with multiple candidates can result in races where the winning margin is similar but the absolute vote share is different. That is, if a candidate wins by 2 percentage points in a 2 candidate race, they likely garnered around 51 percent of the vote. However, in a three candidate race, if the third candidate garners a nontrivial share of the vote, the winning threshold could be lower. For example, the three vote shares could be 41-39-20. As a result, the RDD with multiple cutoffs estimates a weighted average of local treatment effects across all potential cutoffs, in which the most probable cutoff values receive the highest weights. This type of estimate is valuable for studies of women candidates precisely because it represents the reality for female politicians, which often involves higher levels of primary competition (Lawless and Pearson 2008).

Finally, it is important to make clear that the RDD in this case is identifying the causal effect of nominating a female candidate, *not* the causal effect of gender. This distinction is important because it means that gender may not be the only attribute that varies between the men and women

¹¹Although somewhat common in the literature, I do not present estimates using third or fourth-order polynomials as RDD’s using high-order polynomials can be highly misleading and are more prone to type 1 errors (Gelman and Imbens 2014).

who win close primaries. This issue of comparability is not a problem for the design, however. In fact, as Sen and Wasow (2016) discuss, causal claims about “immutable characteristics” like race and sex should be operationalized as a “bundle of sticks,” where the non-manipulable characteristic is understood as an “aggregate of many components” (15). In this case, while the RDD addresses the issue of candidate selection by focusing on close elections, it does not guarantee that the sample of men and women that win are, on average, similar in underlying characteristics. Rather, it aims to ensure that the female candidates who narrowly win their primaries are, on average, similar to the *female* candidates who narrowly lose theirs. As a result, the estimated causal effect from the RDD is a combination of the effect of nominating a female candidate and the effect of the gender-varying characteristics (i.e., the other components of the “bundle of sticks”) that go along with it. Thus, if the women who choose to enter primaries are of a higher quality than the men who enter similar primaries (Anzia and Berry 2011; Fulton 2012; Pearson and McGhee 2013), the RDD estimate will represent the total effect of narrowly nominating a slightly higher quality female candidate instead of a slightly lower quality male candidate.¹² In turn, the estimated effects discussed in this paper should be understood as the effect of nominating a female candidate in combination with all of the other gender-varying correlates that go with that nomination, including any potential disadvantages that women face – or advantages that they leverage – during their campaigns.

The Effect of Nominating a Female Candidate

Following earlier research that has identified a difference in receptiveness towards female candidates by party, I fit separate models for Republican and Democratic primaries. The results from these models are shown in Figure 3, with the Republican results in the top row and the Democratic results in the bottom row. The plots in the left two panels depict the predicted general election vote share for the winning primary candidate as a function of the female candidate’s primary vote margin.¹³ These predictions are computed using results from a model with a quadratic polynomial and no covariates. The vertical line at 0 represents the discontinuity, meaning that all primary

¹²This imbalance is *not* a sorting violation as the fundamental comparison for the design is between the women who win – and get nominated – and the women who lose – and see a man nominated instead. Moreover, even if this particular imbalance is present in the data, it would only make the finding that Republican women lose at higher rates more unlikely.

¹³The plots are zoomed in to provide a better view of the discontinuity. However, doing so means that a small number observations at the extremes are not depicted.

winners to the left of the this line are male and all those to the right are female. For all plots of this style, the solid black points show binned averages of the dependent variable at a 2.5 percent bandwidth, while the bold, dashed line depicts the predicted general election outcome (vote share or win probability, depending on the model). The point estimate for β_1 – the effect of nominating a female candidate – is depicted on these plots as the gap between where the dashed line intersects the left and right side of the discontinuity. In contrast, the right two panels show point estimates for β_1 from a series of local linear regressions at each bandwidth between 5 and 25 percent, along with 95 percent confidence intervals.¹⁴

Taken together, the results in Figure 3 show a generally uncertain picture of the relationship between nominating a female candidate and general election vote share.¹⁵ Looking at the results for Republicans in the top right panel, for example, the point estimates from the local linear specifications imply an 8 percentage point decline in vote share when a female candidate is nominated. However, though all of the estimates are negative, they are relatively imprecise and sensitive to bandwidth, such that we cannot reject the null the hypothesis in most cases. Looking at the left panel, the results from the model with the primary vote margin modeled as a quadratic polynomial suggest a much smaller effect, with little evidence of a shift in vote share at the discontinuity. Although the bins are relatively noisy, we can see this in the general smoothness of the vote share curve across the threshold. In turn, these results suggest that women candidates – and Republican women, in particular – probably do not see higher vote shares than men when nominated and – if they see lower vote shares – the effect would likely be relatively small in magnitude.

Figure 4 shows results for models that are identical to those in Figure 3, but use the indicator for the party of the female candidate winning the general election as the dependent variable.¹⁶ Interestingly, the estimates constructed for Republican women differ from those in the vote share models. Specifically, the polynomial regression results for Republicans in the top left panel of Figure 4 show a 15 percentage point decrease in the Republican party’s general election win probability when a female candidate is nominated ($p = .02$ with covariates, $p = .09$ without).¹⁷ Moreover,

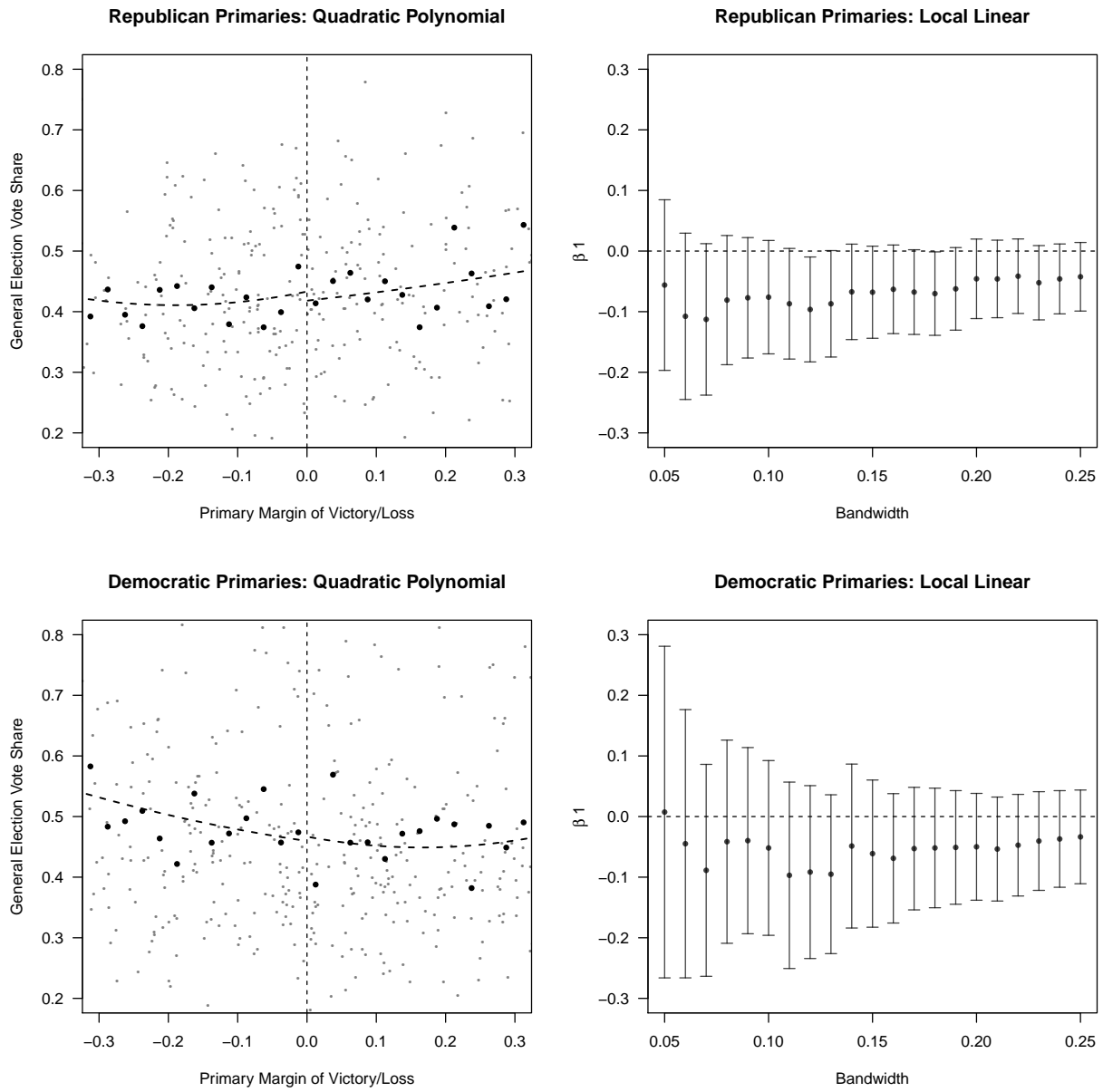
¹⁴For example, the first vertical line represents a bandwidth of 5 percent. For this bandwidth, I run a regression of the form in Equation 1 using only the observations for which the primary margin is between -2.5 and 2.5 percent. I then construct confidence intervals using the maximum of either the conventional or robust standard errors (Angrist and Pischke 2009, 296) and repeat this procedure for bandwidths up to 25 percent.

¹⁵Full regression results for the vote share models can be found in Table 3 and Table 4 in Appendix 1

¹⁶Full regression results for the vote share models can be found in Table 5 and Table 6 in Appendix 1

¹⁷Given the evidence in the literature on the types of districts that Republican women tend to run in – less women-

Figure 3: Quadratic Polynomial and Local Linear RDD Estimates of Female Candidate Primary Win on General Election Vote Share, by Party



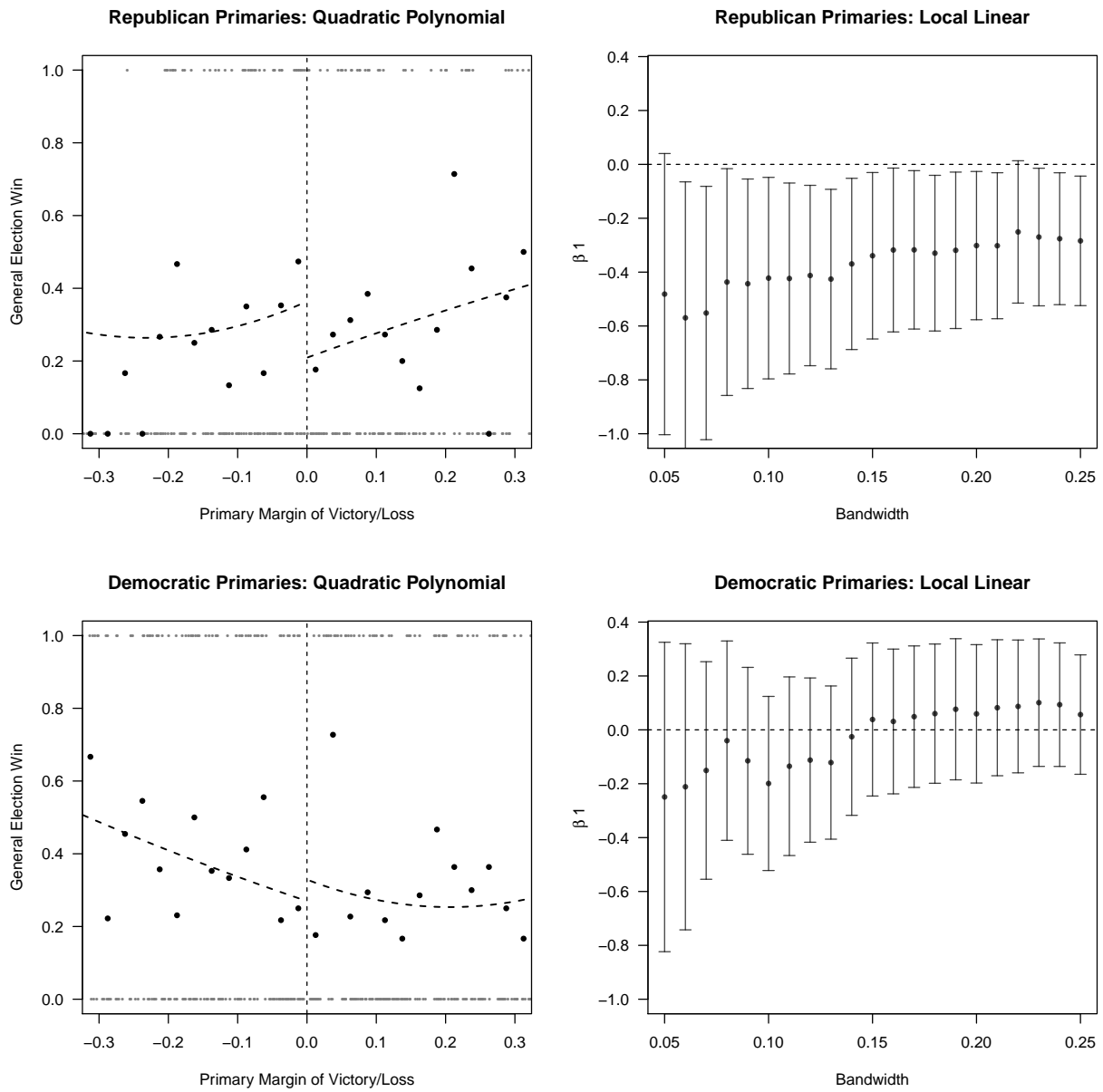
the local linear regression results shown in the top right panel of Figure 4 reinforce this conclusion. Averaging the point estimates across the full range of bandwidths, Republican women who win close primaries lose in the general election at a rate approximately 30 percent higher than Republican men. This finding is particularly striking given the evidence in the literature that female candidates tend to be of higher quality than male candidates (Anzia and Berry 2011; Fulton 2012; Pearson and McGhee 2013). In contrast to the results for Republicans, however, the results for Democratic candidates align with those of the vote share models in that they show no evidence of a difference between male and female candidates at the discontinuity. It is important to note, though, that no evidence of a negative effect is not necessarily evidence of no effect, as a test of equality of the coefficients across parties does not reject the null hypothesis of no difference.¹⁸

Why do the results in the vote share models for Republican candidates differ from those in the win probability models? While it remains possible that a small, substantively important negative vote share effect exists for Republican women, such an effect is actually unnecessary for the win probability results to be accurate, so long as the variance in general election vote share differs by gender. For intuition, imagine two groups of candidates, one of which is male, the other of which is female. The average vote share for each group is 42 percent, with candidate outcomes distributed around this mean. If the variance in outcomes is greater for the male group than the female group, more male candidates will exceed the 50 percent threshold required to win the election even though the distributions are centered around identical means. In practice, this appears to be the cause of the difference in results across models. The left panel of Figure 5 shows the distribution of general election vote share for all Republican candidates in my sample by gender, with the mean of each group plotted as a vertical line. The right panel depicts the same distribution but only for Republican candidates whose primary was within a 15 percent bandwidth (a margin of plus or minus 7.5 percent). While the left panel shows some evidence that the distribution for male candidates is wider than the distribution for female candidates, this disparity is magnified in the

friendly than Democratic women, less Republican-friendly than Republican men – it is worth considering whether these findings differ for women in more or less partisan districts. To test this, I included an interaction between the indicator for a female candidate winning the primary and lagged presidential vote share in a new set of models. The results, which are in the supplementary materials, are generally mixed. While there is some evidence that the effect attenuates in highly Republican districts, this pattern is sensitive to model specification. There is, however, evidence that the effect generally holds in both democratic-leaning and moderate districts, where the majority of the women in my sample are running

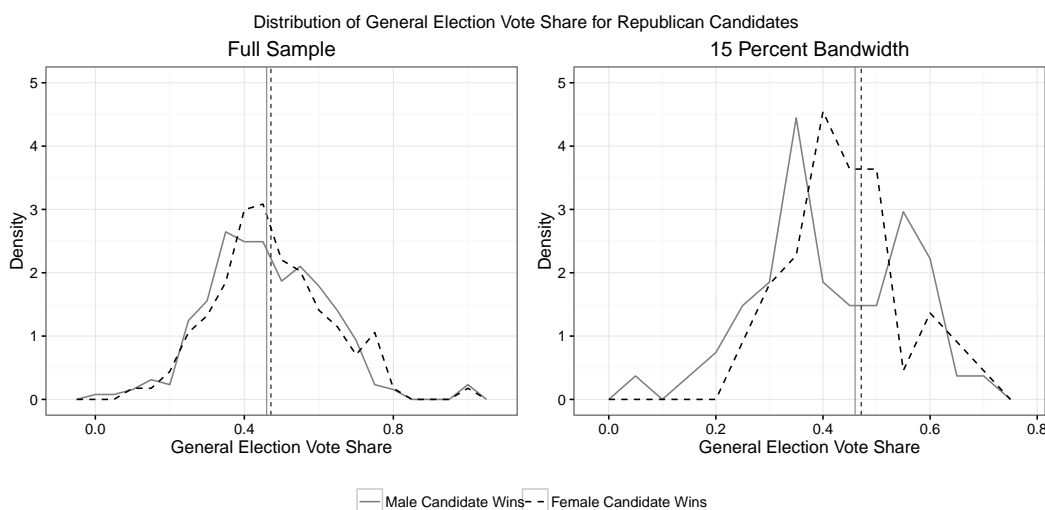
¹⁸The result of this test does not undermine the estimated effects for the Republican models; rather it means that we cannot be certain that the Democratic and Republican estimates are not in fact equal.

Figure 4: Quadratic Polynomial and Local Linear RDD Estimates of Female Candidate Primary Win on General Election Win, by Party



right panel. Despite garnering similar vote shares, on average, the distribution for Republican men in ‘close’ primaries is bi-modal, such that men have significantly more variable outcomes in the general election, winning with either 55 to 60 percent of the vote or losing with around 35 percent of the vote or less. Indeed, within a 15 percent bandwidth, the ratio of the variances in general election vote share between male and female candidates is 1.81; at a 10 percent bandwidth this ratio is 2.16. In both cases, an F test of the null hypothesis that the group variances are equal yields a p-value of .04. In turn, this provides strong evidence that the disparity in results across models stems directly from the variability in general election vote share by gender.¹⁹

Figure 5: Distribution of General Election Vote Share for Republican Candidates



Women Candidates Before and After 1992

One objection to the finding that female candidates who run as Republicans win less often than men might be that this result is driven primarily by races in earlier decades, when voters had less experience with women in office and explicit attitudes against female leadership were stronger (Dolan 2004; Mo 2014). For instance, it is possible that women who ran as Republicans in the 1970s and 1980s faced some form of disadvantage, while those who run today are on equal footing with the men they run against. This hypothesis is partially supported by the large, positive, and

¹⁹While the exact cause of this difference in general election variance is unclear, it does not appear to be a function of incumbency: only 3 candidates within a 15 percent bandwidth are incumbents, all of them women.

statistically significant coefficients for the indicators for the two most recent decades (1992 - 2000 and 2002 - 2010) in the regression models from the previous section (shown in Appendix 1). In turn, it is important to analyze whether the results above vary over time to ensure that the pooled data is not masking important heterogeneity. While assessing the results for each particular year is not advisable in this case because of the limited number of male versus female primaries, I instead analyze how the women who ran for the House between 1992 and 2010 compare to both the women who ran between 1972 and 1990 and the men who ran between 1992 and 2010. To conduct this analysis, I include an interaction term composed of indicators for the female candidate winning the primary election and the election occurring after 1990 in Equation 1.²⁰ Thus, I am essentially estimating two key quantities of interest: (1) the difference in outcomes for women running before and after the 1990 election cycle; (2) the difference in outcomes for men and women running after the 1990 election cycle only. The results for models with general election vote share as the dependent variable are presented in Figure 6 and the results with general election win probability as the dependent variable are in Figure 7.²¹ For each figure, the left two panels show predictions for quantity (1) the difference between women candidates before and after 1990, while the right two panels show predictions for quantity (2) the difference between men and women candidates since 1990.

Looking at the top left panel of Figure 6, the point estimates suggest that women who have run as Republicans since 1990 are doing markedly better than those who ran in the two decades prior, garnering an estimated 10 percentage point higher share of the vote. However, looking at the top-right panel, we see that this relationship does not hold when we compare Republican men and women after 1990. If anything, the negative point estimates and confidence intervals bordering zero suggest that women who have run since 1990 receive lower shares of the vote compared to their male counterparts. In contrast, the second row of Figure 6 shows no similar relationship for Democratic women; that is, there is no strong evidence that Democratic women who have run since 1990 are doing better or worse, on average, than Democratic women in the earlier period or

²⁰The results do not change if I instead use a continuous ‘year’ measure in the interaction (see Figure 9). However, I prefer the simpler approach as interactions of this kind can be inconsistent for the RDD effect Calonico et al. (2016) and running the models in the dichotomous manner allows me to verify the results by splitting the sample and estimating the effect on all races after 1990 absent the interaction. Doing so yields results that are identical to those presented.

²¹To simplify the construction of 95% confidence intervals, all of the predicted differences were estimated via simulation.

Democratic men in the later period.

Why might Republican women be garnering higher vote shares in the more recent decades than women who ran prior to 1992? While this paper cannot say for certain, the most plausible explanation is that the relative gain for Republican women after 1990 stemmed directly from the Republican takeover (and subsequent domination) of the House of Representatives in 1994.²² That is, given that a female Republican candidate was able to get nominated in the 1990s, she was able to garner a higher share of the vote simply as a result of the Republican wave in Congress. However, male Republican candidates also benefited from this shift in partisan tides, which explains how Republican women could receive higher shares of the vote yet remain behind their male counterparts.

Despite this change in partisan control of the House, Figure 7 shows little evidence that Republican women were able to translate their vote share gains into seats. Looking at the top left panel, in particular, we find little support for the hypothesis that Republican women win more often than their earlier female counterparts. Though the point estimates are positive, the uncertainty in the point estimates is considerable. In addition, the top right panel of Figure 7 shows that the gains for Republicans in the House in the two most recent decades were not equally distributed. That is, despite a partisan-friendly environment, Republican women running after 1990 still did not win as often as Republican men, losing at a rate approximately 35 percent higher, on average. These estimates are highly consistent across bandwidths, and particularly striking given what we know about the politics of this time period. In contrast, the bottom two plots show a significantly murkier picture for women who run as Democrats, and it remains unclear whether the trends identified for Republican women hold across parties.

Ultimately, the evidence in this section provides little evidence for the hypothesis that the disadvantages for Republican women have diminished over time. In turn, whatever is driving the lower win rates for Republican women uncovered in this paper is not confined to earlier decades in the sample and continues to influence whether Republican women get elected today.

²²Riding the wave of Newt Gingrich's Contract with America, the Republicans seized control of Congress in 1994 by winning an additional 52 seats in the House. They retained control of the House until 2007, when the Democrats elected Nancy Pelosi as the new speaker.

Figure 6: Predicted Difference in Vote Share When Female Candidate Wins Post-1990

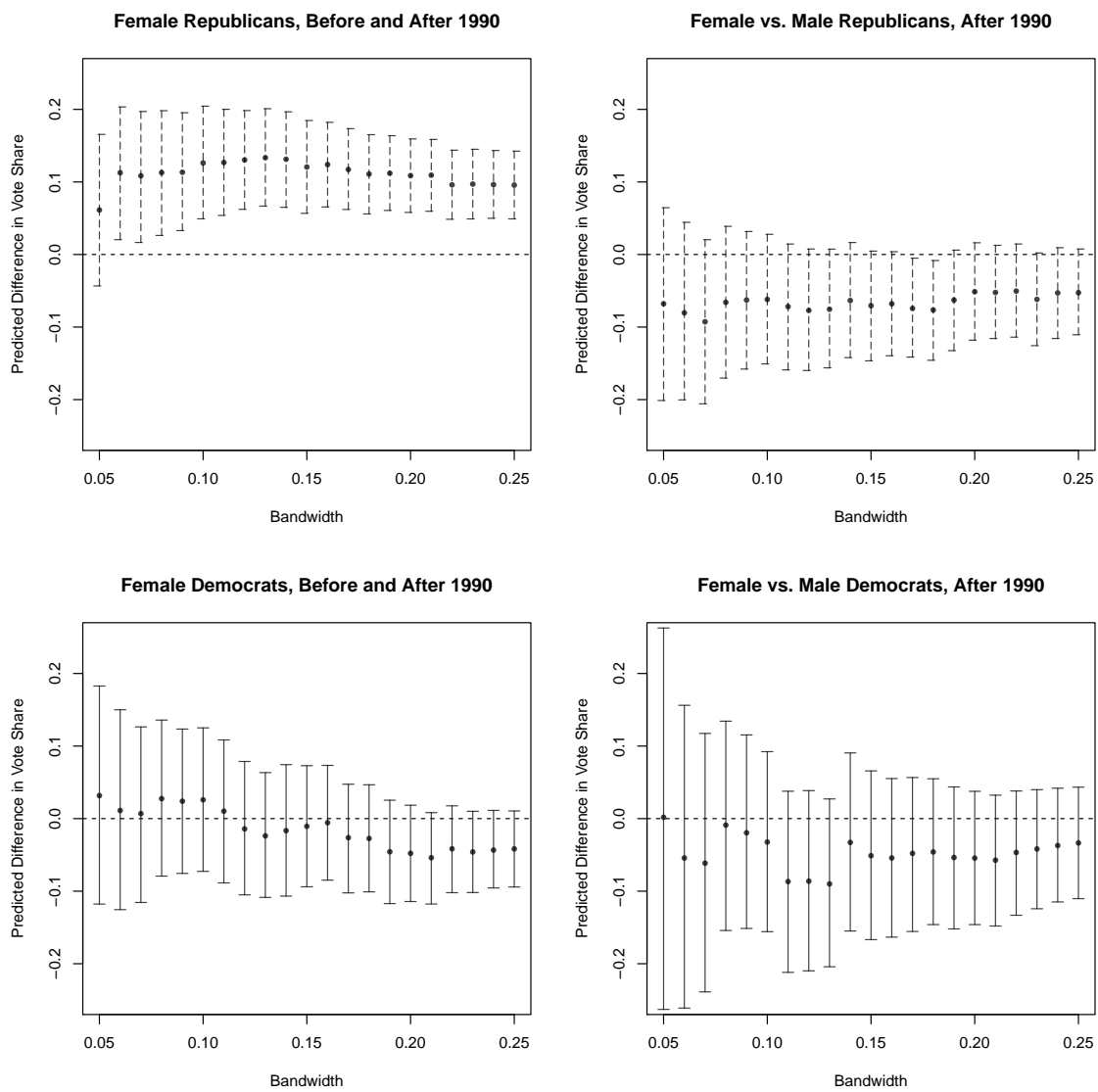
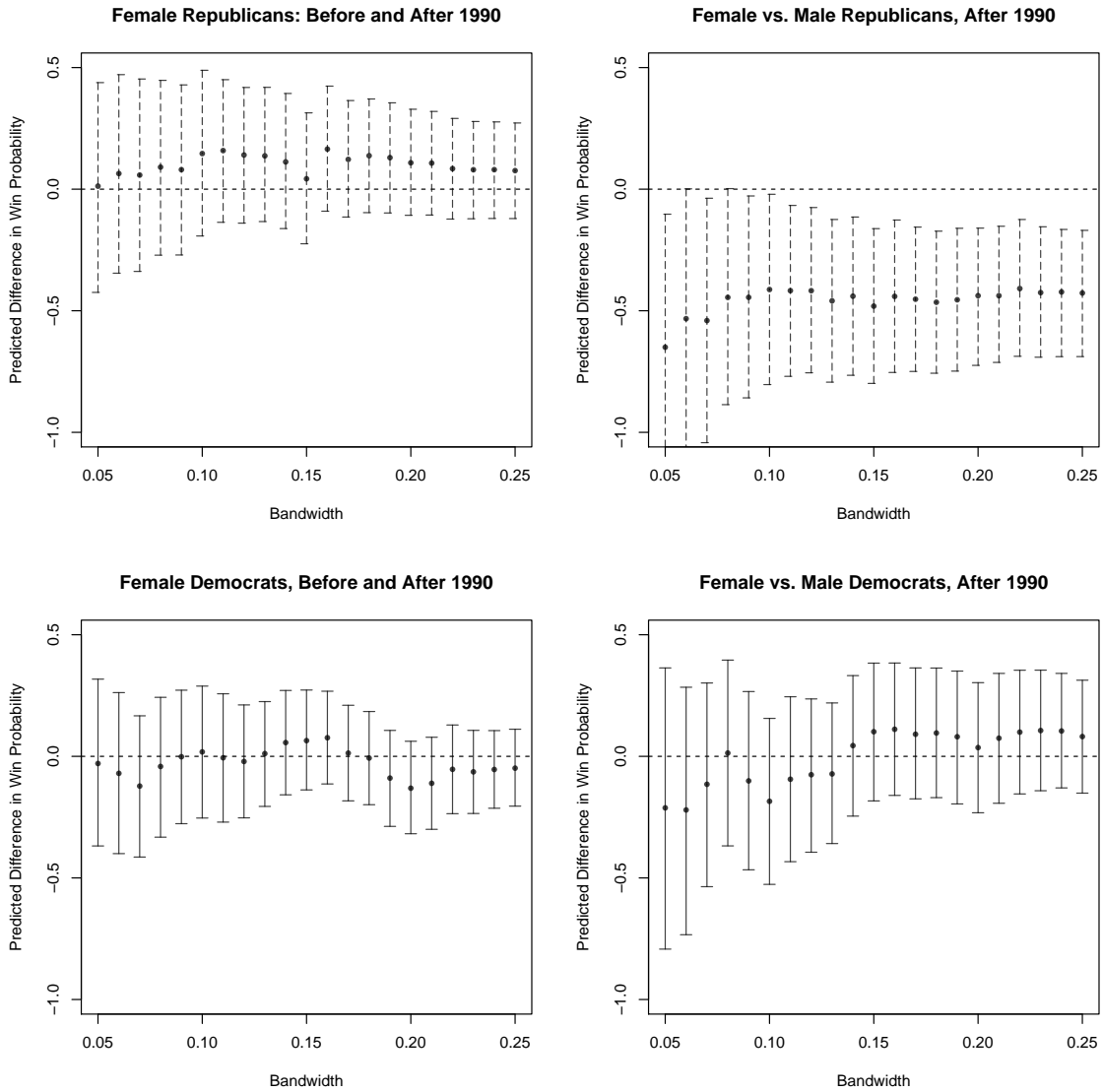


Figure 7: Predicted Difference in Win Probability When Female Candidate Wins Post-1990



Enduring Disadvantage: Evidence from Campaign Contributions

What is the cause of the difference in outcomes for Republican men and women? And why does this disadvantage seem to hinder primarily women of the Republican Party? In this section, I build on the literature discussed earlier in this paper and argue that part of the disparity in outcomes is a function of the support that men and women receive from elites in each party. According to this hypothesis, party leaders and elites perceive women's candidacies differently – whether due to issues of party fit, perceptions of viability, or even outright bias – and subsequently provide lower levels of support in the general election than if a male candidate had been nominated.

To explore this potential mechanism, I use data on campaign contributions to every political candidate in a 'male versus female' primary election between 1990 and 2010.²³ I contend that if Republican women receive a lower level of support from party elites, then that support gap should be reflected in the contribution data as a lower average share of the campaign contributions donated after the primary election. In contrast, I expect that there will be no difference in post-primary fundraising for Democratic men and women, because the Democratic Party is generally considered to be more supportive of women candidates and Democratic women have a larger base of potential female donors and PACs to receive contributions from.

In conducting this analysis, I do not restrict the data exclusively to contributions from party leaders or committees; rather, I include all individuals contained within the FEC's records. This means that any individual who contributed at least 200 dollars to a specific candidate during an election cycle since 1990 is in my data. I choose to define 'party elites' in this broad manner for three reasons. First, the number of individuals that contributes to a campaign and meets the FEC's threshold for an itemized donation is exceedingly small, approximately one-half of one percent in the 2016 cycle, which suggests that these donors are likely to be both highly engaged and partisan.²⁴ Second, contrary to early work on contributor behavior, recent research has found that donors who act strategically and give broadly to campaigns do exist and account for a plurality of the donatee (Gimpel, Lee, and Pearson-Merkowitz 2008; Rhodes, Schaffner, and La Raja 2016; Hill and Huber 2017). Finally, evidence of gendered donation patterns has been found broadly in contribution

²³Specifically, I use the yearly campaign finance data provided in bulk by the Center for Responsive Politics at <http://www.opensecrets.org/myos/bulk.php>. Note that a free login is required in order to access the data.

²⁴<https://www.opensecrets.org/overview/donordemographics.php>

records, not just those from party committees, so including modest to large donors better captures the full range of potential gaps in contribution support Swers and Thomsen (2014).

Table 2 displays results from a regression discontinuity design using the share of the campaign contributions that the female candidate – or the man that won instead – received during the general election as the dependent variable. I construct this variable by coding each contribution in the FEC data as either occurring during the primary or general election, and then aggregating by candidate. I use the share of the winning primary candidate’s contributions instead of the raw contributions because the average amount of contributions a candidate receives in a cycle is increasing throughout this time period.²⁵ In addition, I also include a new set of control variables that are directly related to a candidate’s ability to raise money. These variables include: past presidential vote share, incumbency status, an indicator for whether the election cycle occurs after the passage of the Bipartisan Campaign Reform Act,²⁶ and the share of the campaign contributions from the primary that went to the female candidate.²⁷

The results in Table 2 suggest that when Republican women win close primaries, they receive a 9 percentage point lower share of the total contributions in their general election race than a Republican man would. The magnitude of this effect is generally consistent across specifications, though the level of uncertainty is somewhat larger than earlier models, which is unsurprising given the limited number of primaries for which contribution data is available. In contrast, for the Democrats, I find no evidence of a difference in general election fundraising when a female candidate is nominated. Rather, the model yields point estimates that are relatively close to 0. Figure 10 in Appendix 1 shows results from local linear specifications, which are consistent with the evidence in Table 2.

As with the finding that Republican women win less often than men, one possible objection is that the evidence of a support gap shown in Table 2 is an artifact of earlier years in the sample, since the electoral and fundraising environments have changed significantly for women over this

²⁵Thus, this adjustment is important because it yields a standardized outcome measure that – unlike the raw data – should be generally comparable across years.

²⁶The BCRA is commonly referred to as the McCain-Feingold Act. It restricted the use of soft money in federal campaigns and also increased the contribution caps for certain types of donors. For more details, see: http://www.fec.gov/press/bkgnd/bcra_overview.shtml

²⁷A number of the primary candidates have no reported contributions in FEC data during the primary stage. I code all such individuals as having received \$0 in contributions during the primary. Dropping these races from the data does not alter the results substantively, but does increase the variance of the estimates.

Table 2: Quadratic Polynomial Regressions of General Election Contribution Share on Female Candidate Primary Win

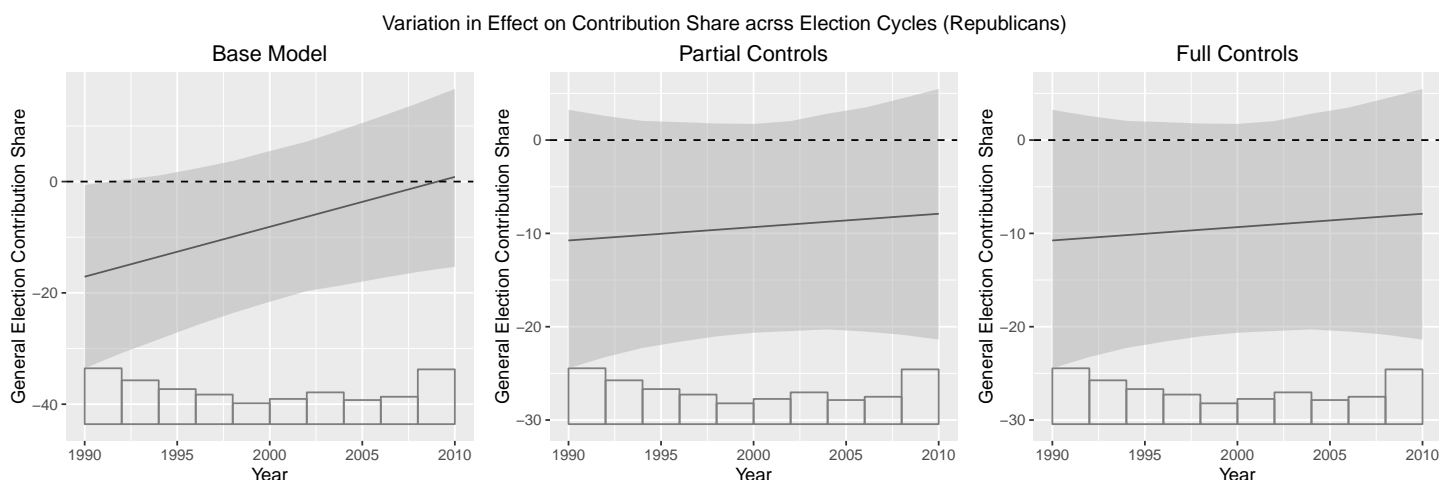
	Dependent variable:					
	General Election Contribution Share					
	Republicans Only			Democrats Only		
	(1)	(2)	(3)	(4)	(5)	(6)
FemaleWin	-6.695 (6.820)	-9.023 (5.697)	-8.725 (5.685)	-2.992 (7.225)	-0.778 (5.643)	-0.391 (5.808)
Margin	30.575 (33.463)	10.751 (27.983)	27.286 (28.857)	-55.464 (35.701)	-77.934** (28.007)	-69.384* (29.103)
FemaleWin * Margin	5.655 (44.749)	42.854 (37.492)	43.014 (37.348)	31.168 (45.287)	86.289* (35.707)	75.034* (36.376)
Margin ²	97.197* (41.329)	61.704+ (34.759)	68.776* (34.920)	-9.193 (43.452)	-52.778 (34.108)	-44.760 (34.756)
FemaleWin*Margin ²	-88.984 (54.794)	-109.078* (45.980)	-128.531** (46.640)	96.085+ (54.328)	58.147 (42.611)	52.997 (44.017)
Pres. Vote T-1		1.116** (0.122)	1.063** (0.122)		1.369** (0.099)	1.344** (0.101)
Incumbent		22.881** (5.058)	25.412** (5.080)		12.463** (4.352)	12.651** (4.369)
Post-BCRA		-8.356** (2.612)	-7.544** (2.609)		2.337 (2.373)	2.344 (2.411)
Primary Share			-0.162** (0.059)			-0.020 (0.052)
Constant	41.437** (4.907)	-9.028 (7.259)	1.973 (8.155)	40.005** (5.321)	-34.919** (6.815)	-31.462** (7.480)
Observations	318	318	313	411	411	402
R ²	0.156	0.428	0.436	0.167	0.496	0.483

Note:

+p<0.1; *p<0.05; **p<0.01

time period. Figure 8 shows results from tests of this hypothesis. Specifically, the plots show the estimated effect of nominating a female candidate over this time period, along with 95 percent confidence intervals. The estimates were constructed by running models identical to those in Table 2 but with a continuous ‘year’ variable interacted with the variable for a female candidate being nominated. Taken together, the results in Figure 8 show limited evidence that the effect has diminished over time. While the model with no controls presents perhaps the strongest evidence, there is good reason to be skeptical of it, because more women are running and becoming incumbents throughout this period. As a result, estimating heterogeneous effects absent controls for incumbency and other time-correlated confounders likely biases the effect. In turn, when these controls are added, the effect appears relatively stable throughout the period.

Figure 8: Variation in Effect of Female Candidate Primary Win on General Election Contribution Share across Election Cycles, by Party



Why do Republican women receive a lower share of their race’s campaign contributions? In this section, I have put forward an explanation centered around a relatively subtle form of bias, in which large donors in the Republican party – broadly considered as elites – change their perceptions of the competitiveness of a race following a woman’s nomination. This creates problems for Republican women because male donors, who make up a majority of the Republican donorate, tend to either contribute to competitive races in order to increase their party’s number of seats or to powerful members of Congress in pursuit of access (Swers and Thomsen 2014). Thus, if a Republican woman’s nomination primes donors into thinking about party fit or electoral viability, it will increase the likelihood that they donate elsewhere.

While a theory of elite support is consistent with the results reported in this section, it is worth emphasizing that other potential mechanisms may also be affecting Republican women and that this analysis is neither a perfect nor complete test of the elite support hypothesis. For example, it is possible that the Republican women who get nominated in these districts are simply lower-quality fundraisers or face extra barriers to fundraising.²⁸ Alternatively, it may be that the decline in contributions has nothing to do with perceptions viability or fit, but rather is the result of either outright bias against female leadership by Republican elites or a countermobilization effort by Democratic elites. Yet, these explanations are inconsistent with findings in the literature, which show that Republican women are more experienced than Republican men (Anzia and Berry 2011; Fulton 2012; Pearson and McGhee 2013) and that open hostility towards women in public life has all but disappeared (Dolan 2004; Mo 2014). Still, the literature on how bias shapes the electoral fortunes of women remains inconclusive, as studies have consistently found evidence that both voter’s perceptions of candidates and their ultimate candidate selections are shaped by stereotypes and implicit biases (King and Matland 2003; Sanbonmatsu and Dolan 2009; Dolan 2010; Mo 2014). In turn, further research is necessary in the future to disentangle these potential mechanisms and identify how they might underlie or complement gaps in elite support.

Discussion

The conventional wisdom in the literature on women candidates argues that when women run, they win as often as men. This conclusion has led to a strong focus in the literature on the barriers to entry for female candidates, with the assumption being that weakening or eliminating these barriers would cause the gender gap in Congress to eventually disappear. As Darcy and Choike (1986) explain: “if we assume no bias with regard to new women candidates, the proportion of women in the legislature will eventually stabilize at the proportion of new candidates that are women” (252). While increasing the number of women that run for Congress remains important – indeed, if women do not run, they will not encounter post-entry disadvantages – this paper suggests that doing so may not be enough to eliminate the gender gap entirely and that more women may be required to

²⁸Jenkins (2007) provides evidence for the hypothesis that women face additional barriers when fundraising, showing that women need to work harder than men to raise the same amount and that they often need to rely on a greater range of funding sources. This evidence, however, is not inconsistent with the theory of elite support put forward in this paper; indeed, a lack of support from party leaders and strategic donors would explain why women need to work harder to raise campaign funds in the first place.

run to reach equal representation than Darcy and Choike (1986) predicted.²⁹ Specifically, evidence from a regression discontinuity design on U.S. House primary elections shows that women who run as Republicans and narrowly win their primaries lose in the general election approximately 15 to 35 percent more often than Republican men. This difference in win rates does not disappear over time or operate purely through partisan waves in Congress as Republican women continue to do worse than Republican men in the two most recent decades. Moreover, when Republican women are nominated, they receive a lower share of the total campaign contributions in their general election race, suggesting that a gap in elite support may be one mechanism through which the difference in general election outcomes operates. In contrast, I find no such evidence for Democratic women.

As with all regression discontinuity designs, it is important to interpret these results appropriately. They are not necessarily applicable to districts without competitive primaries or to elections without candidates like those in the sample used in this analysis. However, what this study lacks in external validity, it makes up for in internal validity by establishing a clear causal link between the nomination of a female candidate and general election win rates. Causal identification is important and worth the sacrifice in external validity in this case as it allows us to estimate the effect of a woman's candidacy absent other confounding factors that have likely biased observational work in this area in the past. Indeed, though the results in this paper only generalize to a limited sample directly, that they align with recent observational work that includes typically omitted factors like candidate quality and district context (Fulton 2012; Pearson and McGhee 2013) suggests that accounting for issues of bias is crucial and that the extent of the disadvantages uncovered in this paper may be broader than the narrowest interpretation implies. Future research, however, should seek to better identify the generalizability of these findings.

Collectively the evidence in this paper provides an additional mechanism through which the gender gap has persisted in Congress; however, it also yields novel insight into the reason for the gender gap across parties. While recent work seeking to explain the disparity in representation between Republican and Democratic women has shown that the partisan gap has roots in the supply of female candidates (Elder 2008; Crowder-Meyer and Lauderdale 2014), ideological fit (Thomsen 2015), and features of each party's organization and culture (Elder 2012), the results in this paper

²⁹That is, if the findings in my paper are correct, more than 50 percent of Republican candidates in the general election will need to be women in order to achieve equal representation within the Republican party.

indicate that these factors are compounded by an electoral environment that creates problems for Republican women. Indeed, it is particularly concerning that even though the Republican Party has largely dominated the House of Representatives since the 1994 election cycle, Republican women have not won as often as their male counterparts, and so the benefits of this period of success have not been equally distributed between male and female Republican candidates. Importantly, however, the results in this paper suggest that addressing this issue purely in terms of recruitment and the supply of candidates are unlikely to be enough to reverse this trend, and that Republican elites, broadly defined, will also need to address disadvantages that arise after a candidate has been nominated.

In reassessing the conventional wisdom, this paper has found evidence that there may be scope conditions that apply for Republican women. However, it is important to emphasize that these findings do not undermine the vast literature on the topic. The number of women that decide to run remains the primary driver of women's underrepresentation in Congress. Rather, what this paper suggests is that – while the barriers to entry are remarkably important – gender can still shape electoral outcomes after a candidate has entered a race. This contribution is significant not only for understanding the causes of the aggregate and partisan gender gaps as they exist now, but also for understanding what might be necessary for these gaps to disappear in the future. In fact, depending on where Republican women run moving forward, the results in this paper might be even more representative of the electoral environment that Republican women will face than those from broader studies suggesting gender-neutral outcomes. How is this possible? As Sanbonmatsu (2006) discusses, given the low number of women candidates overall, extrapolating findings about win rates from contexts in which women have run to contexts where they have not requires a strong assumption, such that scholars may have overestimated the aggregate level of support for women candidates. In turn, speculating about the future of the gaps in women's representation requires an assumption about the nature of the districts that women will need to compete in as more women choose to run. If we believe that the types of districts that Republican women will need to enter in future cycles are both similar to those used in this analysis and will involve competitive primary races – a belief that is not unreasonable given that Republican women have up until now tended to run in relatively women-friendly districts (Palmer and Simon 2008; Pearson and McGhee 2013) – then my results suggest that Republican women will have a challenging road ahead.

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Appendix 1 – Regression Models:

Table 3: Quadratic Polynomial Regressions of General Election Vote Share on Female Candidate Primary Win

	<u>General Election Vote Share</u>			
	<u>Republicans Only</u>		<u>Democrats Only</u>	
	(1)	(2)	(3)	(4)
FemaleWin	-0.015 (0.028)	-0.022 (0.019)	0.007 (0.034)	-0.002 (0.023)
Margin	0.238 ⁺ (0.133)	0.118 (0.091)	-0.166 (0.148)	-0.262* (0.104)
Margin ²	0.628** (0.162)	0.395** (0.111)	0.245 (0.171)	0.028 (0.120)
Pres. Vote T-1		0.007** (0.0004)		0.008** (0.0004)
Pres. Elec. Year		-0.020* (0.009)		0.011 (0.009)
Incumbent		0.150** (0.018)		0.137** (0.018)
1982 - 1990		0.003 (0.016)		-0.035* (0.014)
1992 - 2000		0.127** (0.015)		-0.095** (0.015)
2002 - 2010		0.092** (0.015)		-0.065** (0.014)
FemaleWin*Margin	-0.109 (0.186)	-0.028 (0.127)	-0.049 (0.202)	0.287* (0.142)
FemaleWin*Margin ²	-0.544* (0.226)	-0.483** (0.154)	0.402 ⁺ (0.235)	0.009 (0.165)
Constant	0.433** (0.019)	-0.001 (0.028)	0.460** (0.024)	0.086** (0.026)
N	484	484	758	758
R ²	0.170	0.626	0.233	0.631

⁺p<0.1; *p<0.05; **p<0.01

Table 4: Local Linear Regressions of General Election Vote Share on Female Candidate Primary Win

	General Election Vote Share					
	Republicans Only			Democrats Only		
	BW = .20	BW = .10	BW = .05	BW = .20	BW = .10	BW = .05
FemaleWin	-0.046 (0.033)	-0.076 (0.048)	-0.056 (0.072)	-0.050 (0.045)	-0.052 (0.074)	0.007 (0.140)
Margin	0.393 (0.410)	0.822 (1.244)	1.188 (4.240)	-0.043 (0.544)	-0.929 (1.768)	-6.970 (7.409)
Pres. Vote T-1	0.007** (0.001)	0.006** (0.001)	0.004** (0.001)	0.011** (0.001)	0.012** (0.001)	0.011** (0.003)
Pres. Elec. Year	-0.022 (0.016)	-0.052* (0.024)	-0.052 (0.032)	0.023 (0.023)	0.033 (0.029)	0.065 (0.059)
Incumbent	0.097 (0.070)	0.223* (0.097)		0.008 (0.062)	0.064 (0.088)	0.118 (0.177)
1982 - 1990	0.011 (0.030)	-0.013 (0.045)	-0.038 (0.063)	0.026 (0.049)	0.043 (0.068)	0.013 (0.114)
1992 - 2000	0.135** (0.025)	0.106** (0.035)	0.010 (0.052)	-0.059 (0.041)	-0.049 (0.057)	-0.008 (0.106)
2002 - 2010	0.119** (0.024)	0.103** (0.032)	0.062 (0.044)	-0.014 (0.040)	0.009 (0.053)	0.065 (0.098)
FemaleWin*Margin	0.129 (0.576)	0.177 (1.723)	-2.314 (4.549)	0.768 (0.763)	2.464 (2.511)	10.876 (9.870)
Constant	0.032 (0.048)	0.098 (0.070)	0.269* (0.106)	-0.066 (0.057)	-0.141 ⁺ (0.083)	-0.261 (0.207)
N	131	64	36	132	67	33
R ²	0.554	0.586	0.486	0.582	0.660	0.586

⁺p<0.1; *p<0.05; **p<0.01

Table 5: Quadratic Polynomial Regressions of General Election Win on Female Candidate Primary Win

	<u>General Election Win</u>			
	<u>Republicans Only</u>		<u>Democrats Only</u>	
	(1)	(2)	(3)	(4)
FemaleWin	-0.155 ⁺ (0.092)	-0.166* (0.072)	0.059 (0.083)	0.059 (0.068)
Margin	0.869* (0.433)	0.554 (0.338)	-0.641 ⁺ (0.364)	-0.908** (0.298)
Margin ²	1.882** (0.527)	1.292** (0.412)	0.279 (0.421)	-0.183 (0.346)
Pres. Vote T-1		0.018** (0.002)		0.015** (0.001)
Pres. Elec. Year		-0.072* (0.033)		0.021 (0.027)
Incumbent		0.616** (0.066)		0.445** (0.050)
1982 - 1990		-0.027 (0.059)		-0.014 (0.041)
1992 - 2000		0.270** (0.054)		-0.092* (0.042)
2002 - 2010		0.212** (0.054)		-0.061 (0.040)
FemaleWin*Margin	-0.177 (0.605)	-0.125 (0.472)	-0.092 (0.496)	0.588 (0.407)
FemaleWin*Margin ²	-2.092** (0.737)	-1.976** (0.574)	1.497** (0.578)	0.654 (0.474)
Constant	0.364** (0.063)	-0.648** (0.105)	0.270** (0.059)	-0.444** (0.075)
N	484	484	758	758
R ²	0.113	0.480	0.222	0.491

⁺p<0.1; *p<0.05; **p<0.01

Table 6: Local Linear Regressions of General Election Win on Female Candidate Primary Win

	<i>General Election Win</i>					
	Republicans Only			Democrats Only		
	BW = .20	BW = .10	BW = .05	BW = .20	BW = .10	BW = .05
FemaleWin	-0.302*	-0.422*	-0.482 ⁺	0.059	-0.199	-0.249
	(0.140)	(0.191)	(0.266)	(0.131)	(0.165)	(0.293)
Margin	1.144	3.015	25.190*	-1.703	-0.642	-2.771
	(1.578)	(4.377)	(12.814)	(1.734)	(4.060)	(13.963)
Pres. Vote T-1	0.018**	0.019**	0.018**	0.023**	0.023**	0.023**
	(0.003)	(0.004)	(0.006)	(0.003)	(0.004)	(0.006)
Pres. Elec. Year	-0.108	-0.176 ⁺	-0.127	-0.009	-0.031	-0.025
	(0.070)	(0.105)	(0.130)	(0.070)	(0.079)	(0.128)
Incumbent	0.551*	0.774 ⁺		0.045	0.332	0.643 ⁺
	(0.232)	(0.412)		(0.182)	(0.238)	(0.387)
1982 - 1990	0.038	-0.204	-0.176	0.087	0.154	-0.131
	(0.114)	(0.192)	(0.292)	(0.120)	(0.150)	(0.229)
1992 - 2000	0.188 ⁺	0.073	-0.126	-0.122	-0.108	-0.231
	(0.106)	(0.147)	(0.214)	(0.103)	(0.128)	(0.198)
2002 - 2010	0.324**	0.150	0.205	-0.011	0.052	-0.050
	(0.109)	(0.147)	(0.211)	(0.106)	(0.123)	(0.211)
FemaleWin*Margin	2.094	1.005	-34.130 ⁺	2.556	14.773*	28.304
	(2.408)	(6.764)	(18.560)	(2.343)	(6.167)	(20.367)
Constant	-0.625**	-0.443	-0.153	-0.891**	-0.930**	-0.866 ⁺
	(0.220)	(0.360)	(0.496)	(0.166)	(0.224)	(0.450)
N	131	64	36	132	67	33
R ²	0.363	0.444	0.548	0.420	0.623	0.588

⁺p<0.1; *p<0.05; **p<0.01

Figure 9: Variation in Effect of Female Candidate Primary Win on General Election Win Probability across Election Cycles, by Party

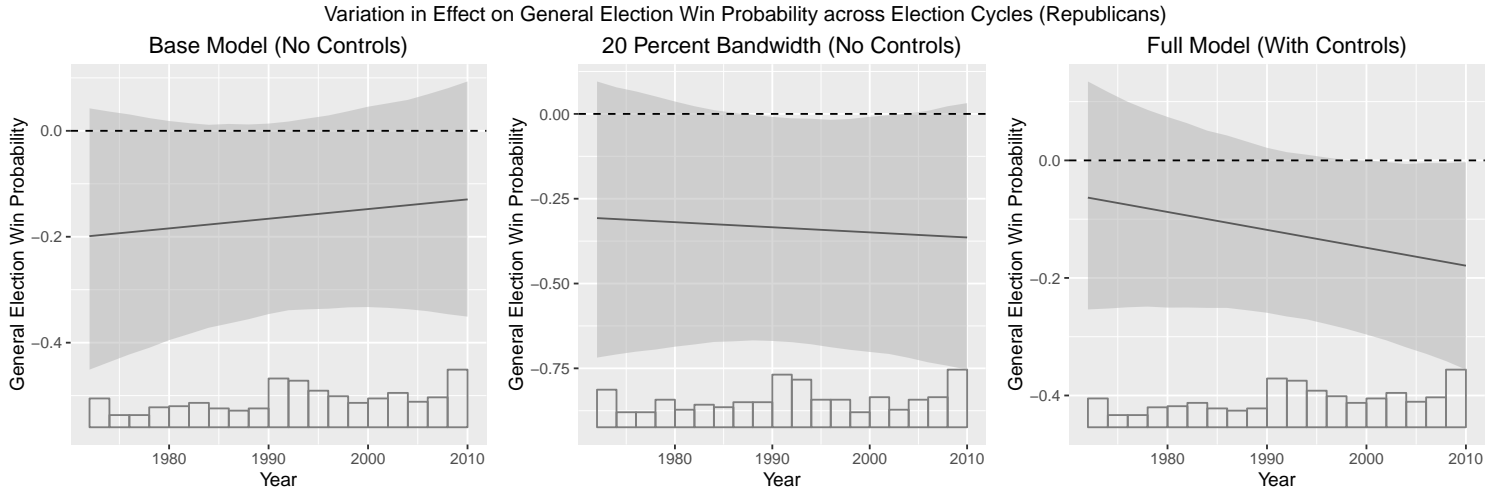


Figure 10: Local Linear RDD Estimates of Female Candidate Primary Win on General Election Contribution Share, by Party

